

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Bruce McDugle)	Art Unit:	3617
Serial No.	10/726,465)	Examiner:	Edward Swinehart
Filed:	December 02, 2003)	Cust. No.	22931
For:	BOAT THRUSTER)	Attorney	
	APPARATUS AND METHOD)	Ref. No.:	P114519

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December 5, 2007

/Stephanie Brown/
Stephanie Brown

APPEAL BRIEF

The Notice of Appeal was filed on June 21, 2007 and the Appeal Brief was filed on August 27, 2007. The attached amended brief seeks to correct the deficiencies noted in the notification of Non-compliant Appeal Brief mailed September 17, 2007. If any fee is due, please charge this to Deposit Account No. 08-3260. Included herewith is a 51-page Appeal Brief and an Appendix showing a clean set of claims as currently amended, as well as two Declarations by the inventor.

A notification of non-compliant appeal brief was sent on November 5, 2007. A phone interview with patent appeal center specialist Lorenda Hood established that in reference to item 4, claim 39 was properly referenced on page 7. An amendment to the appeal brief has been made to refer to the specification by page and line number for claim 49. Based on this same interview, in reference to item 6, each ground of rejection was argued under its own heading. These headings were listed on page 9, and found on page 9 (response to issue 1), 22 (response to issue 2), and 24 (response to issue 3). These headings are now found on pages 11, 23, and 26, respectively.

I. Real Party in Interest.

The sole owner of this patent application is the appellant, namely, the assignee of record Cap Sante Marine, LTD having the assignment Reel/Frame 014604/0071

II. Related Appeals and Interferences.

The appellant is unaware of any other appeals or interferences that would have any effect or have any bearing on the Board's decision in this appeal.

III. Status of the Claims.

Originally, claims 1-64 were presented to the Examiner within the application, and of these 64 claims, all have been finally rejected. Claims 1-64 are appealed.

IV. Status of Amendments.

No amendments have been filed subsequent to the final Office Action.

V. Summary of claimed subject matter by page and line number.

The first independent claim refers to the specification beginning on page 12 beginning

at line 15 and continuing on for several pages. Many of the individual elements of claim 1 refer to Fig. 2.

Claim 1. A thruster 10 adapted to be mounted at an operating location at a transom 14 of a boat 12, having bottom and side wall sections having rear end portions adjacent to the transom 14 and a water line 60 at the transom 14, said thruster 10 comprising:

- a) a central thrusting section 16 which has a lengthwise axis 36 and comprises a central housing 22 that defines a through passageway 24 and two oppositely positioned outer end portions 26 and 28 , each of which defines an end opening 30 and 32;

- b) a propeller section 35 positioned in said through passageway 24;
- c) two extension members 18 and 20 that are positioned at opposite sides of the central housing 22, with each extension member 18 and 22 having an inner end portion 64 adjacent to a related one of said outer end portions 66 of the central housing 22 and extending outwardly therefrom, each extension member 18 and 20 having a lower perimeter edge portion 70 which is located so that with the thruster 10 in an operating position, and with the boat being in a lateral thrust operating mode, the perimeter edge portions 70 of the two extension members 18 and 20 are below the water line 60 of the boat, each extension member 18 and 20 having a lower downwardly facing surface 70 that defines a flow passageway 24 at the downwardly facing surface 70, said flow passageway 24 having an inner end flow passageway portion adjacent one of the end openings of the center housing 22;
- d) said thruster 10 being configured and arranged, so that with the thruster 10 located at the transom 14 in its operating position:
 - i) when the boat 12 is traveling at a sufficient speed through the water to cause the water to separate from the transom 14 and form a transom wake surface, the thruster 10 is substantially clear of the water that is at the transom wake surface, and
 - ii) when the thruster 10 is operating and the boat 12 is in a lateral thrust operating mode, the two extension members 18

and 20 have their lower perimeter edge portions 70 located so that as water flows by the lower perimeter edge portions 70 and into one of the end openings 30 and 32 of the center housing 22, ambient air is substantially prevented from being entrained in the water entering into the center housing 22.

The second independent claim (11) refers to the specification beginning on page 13 beginning at line 14 and continuing on for several pages. Many of the individual elements of claim 11 refer to Fig. 2.

Claim 11. A thruster 10 boat 12 combination comprising:

- a) a boat 12 comprising a hull 4 having a water line 60, side walls 44, a bottom wall 46, and a transom 14, with said bottom wall 46 comprising two wall sections 48 which extend from side locations in a downward and laterally inward slant to a central juncture location of the two bottom wall sections, and with said transom 14 meeting said bottom and side walls at bottom and side edge locations thereof, said boat 12 having a thrust operating mode where the boat 12 is stationary or is moving at a sufficiently low speed so that water remains adjacent to the transom 14;
- b) a thruster 10 which is mounted at the transom 14 of the boat 12 so as to provide lateral thrust, said thruster 10 comprising:
 - i) a central thrusting section 16 which has a lengthwise axis 36 and comprises a central housing 22 that defines a through passageway 24 that is generally aligned with said lengthwise axis 36 and has two oppositely

positioned outer end portions 26 and 28, each of which defines an end opening 30 and 32;

ii) a propeller section 35 positioned in said through passageway 24;

c) two extension members 18 and 20 that are positioned at opposite sides of the central housing 22, with each extension member 18 and 20 having an inner end portion 64 adjacent to a related one of said outer end portions 66 of the central housing 22 and extending outwardly therefrom, each extension member 18 and 20 having a lower perimeter edge portion 70 which is located so that with the thruster in an operating position and with the boat being in a lateral thrust operating mode, the perimeter edge portions 70 of the two extension members 18 and 20 are below the water line 60 of the boat, each extension member 18 and 20 having a lower downwardly facing surface that defines a flow passageway 24 at the downwardly facing surface 70, said flow passageway 24 having an inner end flow passageway portion adjacent one of the end openings of the central housing 22;

d) said thruster 10 being configured and arranged, so that with the thruster 10 located at the transom 14 in its operating position:

i) when the boat 12 is traveling at a sufficient speed through the water to cause the water to separate from the transom 14 and form a transom wake surface, the thruster 10 is substantially clear of the water that is at the transom wake surface, and

ii) when the thruster 10 is operating and the boat 12 is in a lateral thrust operating mode, the two extension members 18 and 20 have their

lower perimeter edge portions 70 located so that as water flows by the lower perimeter edge portions 70 and into one of the end openings 30 or 32 of the center housing 22, ambient air is substantially prevented from being entrained in the water entering into the center housing 22.

The third independent claim (30) refers to the specification beginning on page 12 beginning at line 15 and continuing on for several pages. Many of the individual elements of claim 30 refer to Fig. 2.

Claim 30. A thruster 10 adapted to be mounted to a boat 12 at an operating location, said thruster 10 comprising:

- a) a central thrusting section 16 which has a lengthwise axis and comprises a central housing 22 that defines a through passageway 24 and two oppositely positioned outer end portions 26 and 28, each of which defines an end opening 30 and 32;
- b) a propeller section 35 positioned in said through passageway 24;
- c) two extension members 18 and 20 that are positioned at opposite sides of the central housing 22, with each extension member 18 and 20 having an inner end portion 64 adjacent to a related one of said outer end portions 26 and 28 of the central housing 22 and extending outwardly therefrom, each extension member 18 and 20 having a lower perimeter edge portion 70 which is located at an elevation lower than the end openings 30 and 32 of the center housing 22, each extension member 18 and 20 having a downwardly facing surface 70 that defines a flow passageway 24 at the downwardly facing surface 70, said flow passageway 24 having an inner

end flow passageway portion adjacent one of the end openings of the center housing 22;

- d) said thruster 10 being configured and arranged, so that with the thruster 10 located in an operating position with the thruster 10 operating to provide a lateral thrust, the two extension members 18 and 20 have their lower perimeter edge portions 70 located so that as water flows by the lower perimeter edge portions 70 and into one of the end openings of the center housing 22, ambient air is substantially prevented from being entrained in the water entering into the center housing.

The fourth independent claim (39) refers to the specification beginning on page 12 beginning at line 15 and continuing on for several pages. Many of the individual elements of claim 39 refer to Fig. 2.

Claim 39. A method of providing lateral thrust in a boat 12 comprising a hull 42 having a water line 60, side walls 44, a bottom wall 46, and a transom 14, with said bottom wall 46 comprising two wall sections which extend from side locations in a downward and laterally inward slant to a central juncture location of the two bottom wall sections, and with said transom 14 meeting said bottom 46 and side walls 44 at bottom and side rear edge locations thereof, said boat 12 having a lateral thrust operating mode where the boat 12 is stationary or is moving at a sufficiently low speed so that water remains adjacent to the transom 14, and a higher speed operating where water separates from the transom 14 to form a transom wake surface,
said method comprising:

- a) providing a thruster 10 by:
 - i) providing a central thrusting section 16 which has a lengthwise axis 36 and comprises a central housing 22 that defines a through passageway 24 that is generally aligned with said lengthwise axis 36 and has two oppositely positioned outer end portions 26 and 28, each of which defines an end opening 30 and 32 and a propeller section 35 positioned in said through passageway 24;
 - ii) positioning two extension members 18 and 20 at opposite sides of the central housing 22 to form said thruster 10 in a manner that each extension member 18 and 20 has an inner end portion 64 adjacent to a related one of said outer end portions 66 of the central housing 22 with the extension members 18 and 20 extending outwardly therefrom, and each extension member 18 and 20 having a lower perimeter edge portion 70,
- b) positioning the thruster 10 with the two extension members 18 and 20 in an operating position at the transom 14 of the boat 12, so that the perimeter edge portions 70 of the two extension members 18 and 20 are below the water line 60 of the boat 12, with each extension member 18 and 20 having a downwardly facing surface 70 that defines a flow passageway 24 at the downwardly facing surface 70, and with said flow passageway 24 having an inner end flow passageway portion adjacent one of the end openings of the central housing 22,
- c) operating the boat 12 with the thruster 10 positioned so that during a time period when the boat 12 is in said lateral thrust operating mode to cause a lateral thrust,

the two extension members 18 and 20 are positioned so that their lower perimeter edge portions 70 are located so that as water flows by one of the lower perimeter edge portions 70 and into one of the end openings 30 and 32 of the center housing 22, ambient air is substantially prevented from being entrained in the water entering into the central housing 22, and during a time period when the boat is operating during the higher velocity operating mode the thruster 10 is substantially clear of the water that is at the transom wake surface.

The fifth independent claim (49) refers to the specification beginning on page 12 beginning at line 11 and continuing. Many of the individual elements of claim 49 refer to Fig. 2.

49. A thruster 10 adapted to be mounted to a boat 12 at an operating location, said thruster 10 comprising:

- a) a central thrusting section 16 which has a lengthwise axis 36 and comprises a central housing 22 that defines a through passageway 24 and two oppositely positioned outer end portions 26 and 28, each of which defines an end opening 30 and 32;
- b) a propeller section 35 positioned in said through passageway 24;
- c) two extension members 18 and 20 that are positioned at opposite sides of the central housing 22, with each extension member 18 and 20 having an inner end portion 64 adjacent to a related one of said outer end portions 26 and 28 of the central housing 22 and extending outwardly therefrom, each extension member 18 and 20 having a lower perimeter edge portion 70 which is located at an elevation lower than the upper portions of the end

openings of the center housing 22, each extension member 18 and 20 having a downwardly facing surface 70 that defines a flow passageway 24 at the downwardly facing surface 70, said flow passageway 24 having an inner end flow passageway portion adjacent one of the end openings of the center housing 22;

- d) each extension member having a perimeter flange 86 connected to, and positioned around at least a substantial portion of the lower perimeter edge portion 70 of the extension member, with the perimeter flange 86 positioned with a substantial horizontal alignment component from the lower perimeter edge portion 70 to extend into the surrounding water;
- e) said thruster 10 being configured and arranged, so that with the thruster 10 located in an operating position with the thruster 10 operating to provide a lateral thrust, the two extension members 18 and 20 have their lower perimeter edge portions 70 located so that as water flows by the lower perimeter edge portions 70 and into one of the end openings 30 and 32 of the center housing, ambient air is substantially prevented from being entrained in the water entering into the center housing 22.

VI. Grounds of rejection to be reviewed on appeal. The issues are the following:

1. Claims 30-38 are rejected under 35 U.S.C. 102 (b) as being anticipated by applicant's disclosed offer for sale of the claimed invention.
2. Claims 1-29 and 39-48 are rejected under 35 U.S.C.103(a) as being unpatentable over applicant's disclosed offer for sale of the claimed invention in view of Dan Ouden.

3. Claims 49 -- 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's disclosed offer for sale of the claimed invention in view of Stallman.

VII. Grouping of the Claims.

1. Claims 30-38 are grouped together.
2. Claims 1-29 and 39-48 are grouped together.
3. Claims 49 -- 64 are grouped together.

VIII. Arguments.

Response to First grounds of rejection

At Section 7 of the last Office Action, the Examiner noted that the Declarations filed on March 20, 2007 and September 11, 2006 under 37 CFR 1.312 were considered but were ineffective to overcome the offer for sale reference. The Examiner stated in the second full paragraph that there is no nexus between the invention as claimed and the thruster as discussed in the Declarations. The Declarations identify a thruster which was simply sold and considered to be experimental use by way of applying the correct law regarding experimental use. The declarations are intended to be a recitation of fact as to what was sold at those times and the surrounding circumstances. The Examiner noted in the next sentence that the phrases "and to my knowledge of patent law" and "reads upon" render the statement attempting to show a nexus inadequate." It is not clear what the Examiner is referring to when discussing a nexus between the invention as claimed and the thruster as discussed in the Declarations. The Declarations are merely sworn statements to indicate the surrounding circumstances. One aspect of the Declarations is to indicate the modifications that were made in the course of the project, including modifications which occurred after the filing of the patent application. It is not clear why the Examiner is requiring a nexus between the invention as claimed and the thruster. In fact, the phrases that the declarants used, such as "and to my knowledge of patent law" as well as "reads upon" are merely honest statements by the applicants, who are not experts in patent law but are qualifying their statements to indicate that to their knowledge of patent law time they are making their assessments. In fact, a nexus

between the invention as claimed and the thruster as discussed in the Declarations need not be present because, of course, there are alterations between the claims and the products that are developed by the Applicant.

The Examiner has taken issue with the degree of control which has been exhibited over the lateral thruster which was delivered to a Mr. Murch prior to the year of filing of the original provisional patent application which the present application claims priority upon. One of the factors for establishing experimental use is the degree of control, and the case law discussing experimental use is described in detail in the previous response by the applicant's Attorney.

A declaration by the inventor, Mr. McDugle, is attached herewith disclosing the various facts to the best of his recollection following the installation of the first rendition of the lateral thruster to Mr. Murch's boat.

Mr. McDugle's statements in paragraph 3 establish that there is a nexus between the apparatus attached to Mr. Murch's boat and the claims of the present patent application.

With regard to the degree of control, Mr. McDugle, as stated in paragraph 4, recalls attempting to contact Mr. Murch approximately five to seven times in the following months after the installation of the first rendition of the lateral thruster. He specifically recalls making contact with Mr. Murch three specific times, and as stated in paragraph 5, conducted post-installation improvements upon the first rendition of the lateral thruster. Mr. McDugle noted that he vividly recalls his attempts to contact Mr. Murch because due to the various improvements made to the later renditions of the lateral thruster, Mr. McDugle wanted to replace the original version on Mr. Murch's boat entirely.

Therefore, it is believed that the nature of this exercise of control by way of numerous communications, as well as follow-up improvements and attempts to entirely replace the first rendition, indicates the element of control over the experimental use lateral thruster. The previous Response discusses in great detail the numerous factors of recent case law related to experimental use, and given the additional information in the latest Declaration, in conjunction with the facts set out in the last Response (as well

as previous Responses), it is strongly believed that the overall nature of this first prototype was that of experimental use.

With regard to the “on sale bar” this is discussed in the Manual of Patent Examining Procedure, § 2133.03 (b) “On Sale”. For the convenience of the Examiner, the pertinent language is discussed below. Page 1, first paragraph:

... The on-sale bar of 35 U.S.C. 102(b) is triggered if the invention is both (1) the subject of a commercial offer for sale not primarily for experimental purposes and (2) ready for patenting, Pfaff v. Wells Elecs., Inc., 525 U.S. 55, 67, 48 USPQ2d 1641, 1646-47 (1998).

To put the case law in perspective as stated in the EZ Dock, Inc. v. Schafer Sys., Inc., case: “Before the Supreme Court's decision in Pfaff, this court used a multifactor, 'totality of the circumstances' test to enforce the on-sale bar.” EZ Dock, Inc. v. Schafer Sys., Inc., 276 F.3d 1347, 1351 (Fed.Cir.2002).

Now with regard to the second prong of the above-noted test in Pfaff, the Supreme Court elaborated on two possible ways to satisfy this prong. Pfaff, 525 U.S. at 67, 119 S.Ct. 304. The Supreme Court explained that the second condition ready for patenting “may be satisfied in at least two ways: by proof of reduction to practice before the critical date; or by proof that prior to the critical date the inventor had prepared drawings or other descriptions of the invention that were sufficiently specific to enable a person skilled in the art to practice the invention.” Id. at 59, 119 S.Ct. 304.

I bring up this background to present a clearer picture of the legal framework for the present issues. I noted in the Examiner's response on page 4 that the Examiner cited the 1989 Federal Circuit case, RCA Corp. v. Data Gen. Corp., and since that time, the legal landscape has changed somewhat due to the Supreme Court decision in Pfaff. To get a better visual of the prongs in their conjunctive and disjunctive nature in the hierarchical fashion, I attached herewith a quick visual map as Attachment A to provide a general gestalt of the issues.

Therefore, with an appreciation of how reduction to practice fits within the legal framework has one way of showing the second prong of the Pfaff case, there will now be a focused discussion upon the first necessary prong of the Pfaff case related to "the subject of a commercial's offer for sale not primarily for experimental purposes."

Therefore, I would like to elaborate upon the fact pattern and legal holding within the EZ Dock case, which found the commercial sale to be experimental and thus not invoking the 35 USC 102(b) bar.

With the regard to EZ Dock v. Schafer Systems, at 276 F.3d 1347, this case cites Pfaff, which is noted above, and of course relies upon the two-prong test to determine if USC §102(b) is invoked. Of course, the EZ Dock case was in appeal from summary judgment; however, the court nonetheless did not find that the stipulated facts rose to the level of finding a statutory 102(b) on sale bar.

Before Pfaff, reduction to practice was a central focus of both the on-sale bar and experimental use negation thereof. See, e.g., Seal-Flex, Inc. v. Athletic Track & Court Constr., 98 F.3d 1318, 1324, 40 USPQ2d 1450, 1454 (Fed.Cir.1996). The coincidence of reduction to practice as a focal point for both aspects brought a symmetry, and often a simplicity, to the analysis. As stated in the RCA Corp case, an invention could be the subject of an experimental use anytime up to reduction to practice. RCA Corp. v. Data Gen. Corp., 887 F.2d 1056, 1061, 12 USPQ2d 1449, 1453 (Fed.Cir.1989).

Therefore, it can be appreciated that prior to EZ Dock and Pfaff, reduction to practice with the central focus; however, Pfaff changed the test for when an on-sale bar is triggered where the Supreme Court has positioned the factor of reduction to practice in the framework such as that shown in Attachment A.

With regard to the first prong of the Pfaff test, reference is made to the facts of the EZ Dock case, which are now listed below.

Facts Related to the First Prong of the Pfaff Test as Recited in EZ

Dock Case

In general, the EZ Dock case related to molded dock sections coupled together with rubber male-type anchors. In this case, the following fact pattern was cited by the Federal Circuit:

After Schafer established its *prima facie* case that the '055 patent was invalid due to an on-sale bar, EZ Dock put forth evidence to negate that evidence by showing that its sale to Mr. Greden was experimental. When Mr. Greden purchased his dock, EZ Dock was not yet selling any docks. Mr. Neitzke did not have a "for sale" sign, brochure, or any other markings to indicate that the docks he had in his office supply store were for sale. Rather, Mr. Greden initiated the purchase of the dock. Mr. Greden did not pay full market price for the dock. Moreover Mr. Neitzke added free equipment and free installation to the price he did charge Mr. Greden. This evidence creates a genuine issue regarding the factual support for whether the inventors offered their invention for a commercial sale under market conditions in accordance with the first part of the *Pfaff* test. *EZ Dock v. Schafer Systems*, at 276 F.3d 1347, 1353.

Therefore, the relevant facts in this case include the following: the buyer and not the inventors initiated the sale, the buyer did not pay full market price, the inventors provided installation and equipment for free, the inventors visited the buyer's premises on several occasions, the inventors made free repairs, there was a need to test the invention for durability under the conditions at the buyer's premises, and the inventors changed the feature of the embodiment sold to the buyer.

Now referring to the facts of the present case, it can be shown that the first prong of the *Pfaff* test has not been reached.

Analysis

Reference is now made to the attached Declaration of one of the co-inventors, Mr. Bruce McDugle. This attached Declaration was executed on September 6, 2006, by Mr. McDugle, and there is also attached an earlier Declaration of Mr. McDugle signed on August 23, 2004.

In page of 3 of the attached latest McDugle Declaration of this September 6, 2006, Mr. McDugle made it very clear that if he had not entered into an arrangement such as with Mr. Murch (the purchaser), he would not have tried to engage in a commercial sale of this thruster what has yet to be designed and manufactured.

1. Purchaser Initiated Sale

Mr. McDugle also points out that he did not solicit a sale from Mr. Murch. Mr. Murch came to him and Mr. McDugle told Mr. Murch that he had had different ideas about how the thruster could be made to be compatible with boats with shallow draft, but he regarded these ideas as experimental and made that very clear to Mr. Murch.

2. Did Not Pay Full Price

Further, on pages 4 and 5, Mr. McDugle points out that he was also sticking his neck out financially in that he was obligated to do further design work if needed without receiving any compensation except for Mr. Murch paying for the out-of-pockets.

3. Inventor Followed up with Purchaser

The inventor made several calls to the purchaser thereafter, and as recited in paragraph 13 on page 11 of his Declaration on August 23, 2004, adjustments were made such as moving the thrust assembly upwardly two inches closer to the relative bottom surface of the stern. Further, other changes were noted to address the problem of water flowing upwardly in a curve around the rear surface of the thrust housing. Further modification was made for the lower concave surface of these extension members in a more circular configuration 10 as shown in the attached figure of his

Declaration. It should be noted that paragraph 13 of the inventor's Declaration relates to actions for a second prototype.

4. Inventor Had Sufficient Control

With regard to the general nature of control of the first prototype, as recited in the inventor's Declaration of August 23, 2004 in paragraph 12, the inventor stated on November 16, 2001 that he and Mr. Murch met at the Cap Sante Marine Ltd. place of business, where Mr. Murch, along with the inventor and another employee Cap Sante, Mr. Patterson, were in attendance when the inventor observed water passing under the thrust assembly and noticed it was adhering to the cylindrical housing, and at this point there was a modification made to the apparatus. Such activity indicates additional control and testing over the prototype, indicating experimental use.

As recited in the middle portion of paragraph 12 on page 10 of the inventor's Declaration, the inventor made several calls to Mr. Murch, attempting to contact him thereafter. After contact, additional modification was made with the motor portion of the apparatus.

The Examiner has taken issue with the degree of control which has been exhibited over the lateral thruster which was delivered to Mr. Murch prior to the year of filing of the original provisional patent application which the present application claims priority upon. Of course, one of the factors for establishing experimental use is the degree of control, and the case law discussing experimental use is described in detail in the previous response by the applicant's Attorney.

Another declaration by the inventor, Mr. McDugle, is attached herewith disclosing the various fact to the best of his recollection following the installation of the first rendition of the lateral thruster to Mr. Murch's boat.

Mr. McDugle's statements in paragraph 3 establish that there is a nexus between the apparatus attached to Mr. Murch's boat and the claims of the present patent application.

With regard to the degree of control, Mr. McDugle, as stated in paragraph 4, recalls attempting to contact Mr. Murch approximately five to seven times in the following months after the installation of the first rendition of the lateral thruster. He

specifically recalls making contact with Mr. Murch three specific times, and as stated in paragraph 5, conducted post-installation improvements upon the first rendition of the lateral thruster. Mr. McDugle noted that he vividly recalls his attempts to contact Mr. Murch because due to the various improvements made to the later renditions of the lateral thruster, Mr. McDugle wanted to replace the original version on Mr. Murch's boat entirely.

Therefore, it is believed that the nature of this exercise of control by way of numerous communications, as well as follow-up improvements and attempts to entirely replace the first rendition, indicates the element of control over the experimental use lateral thruster. The previous Response discusses in great detail the numerous factors of recent case law related to experimental use, and given the additional information in the latest Declaration, in conjunction with the facts set out in the last Response (as well as previous Responses), it is strongly believed that the overall nature of this first prototype was that of experimental use.

5. Inventor Changed Design Based on Results

It should be noted that the applicant has changed the feature of the embodiment due to this testing, as recited in the seventh fact pattern in the EZ Dock case. One of the changed factors is a perimeter flange, which is shown in the top view in Fig. 4. Further, another change resulting from this experimental use was the position of the internal motor, which is now positioned in a more lateral orientation with respect to the main housing as shown in Fig. 3 (see the opener 104 to which a drive shaft is positioned in the ANSI text on page 20, beginning at line 6). Of course, the applicant does not intend to limit the claims to such an orientation, but the point is that adjustment of the preferred embodiment was made directly related to the experimental use. Further, these changes from the original prototype manifested themselves by way of claims, albeit dependent claims.

Now let us turn our attention to the newly submitted claims 49 through 64. Claim 49 has substantially the same recitations as in the other parent claims, except that in paragraph d) of claim 49 it recites that each extension member has a perimeter flange

connected to, and positioned around at least a substantial portion of a lower perimeter edge portion of the extension member, with the perimeter flange positioned with a substantial horizontal alignment component from the lower perimeter edge portion to extend into the surrounding water.

This relates to the perimeter flange 86. This is also discussed in page 13 of Mr. McDugle's earlier Declaration. Mr. McDugle points out that with that perimeter flange it made an improvement in the flow pattern of the water so that there was less pressure loss and less turbulence in the water entering the passageways defined by the extensions. He also points out that by observing the water flow the laterally extending perimeter flange would split the water flow in a manner so that the water above the flange would flow more easily over the extensions and the water below the flange would flow more evenly into the partial passage provided by the extensions.

At the bottom part of page 13, Mr. McDugle indicates that he is reasonably confident in saying that he increased the effect of thrust as a minimum by 50% and quite possibly as much as 100% over the first prototype. Although he does not have precise measurements of this, this is based upon his observations of the ability to move the boat sideways, which would of course have a proportional relationship to the thrust provided by the thrust assembly.

Of course, the above-noted factors merely show fact patterns similar to the EZ Dock case, where of course other facts in the present case indicate that the general nature of the transaction as experimental.

As recited in the inventor's second Declaration of September 6, 2006, there was limited knowledge of the likelihood of success of the embodiment, and as noted in column 8, the motivation for the prototype was for experimentation.

Then on page 5 of the later McDugle Declaration, Mr. McDugle was also asked to clarify to the undersigned the question of whether he regarded the arrangement with Mr. Murch as an experimental arrangement or more commercial. Again, Mr. McDugle made it quite clear that "without a doubt my answer is that substantially my entire motivation was for the purpose of experimental and I believe this is very clear from my Declaration."

The history of the prosecution of this application includes the Examiner originally citing the 1989 Federal Circuit case, RCA Corp. vs. DataGen Corp, where the law has been updated as recited above with regard to the Pfaff case. Attachment A of the last Office Action illustrates the principles of Pfaff, in a mind-map-like display which is reproduced herein below. The Examiners pointed out portions of the Declarations in paragraph 7, the second paragraph of the last Office Action, where the Examiner stated that the Applicant failed to maintain control over the so-called experimental use. As the Declaration states, Mr. Murch "drove the boat away", and applicant was "not able to reach him." However, with the Declarations and all the facts taken as a whole, it is believed that experimental use is clearly established by way of Pfaff as well as the EZ Dock case. The next sentence in Section 7 of the Examiner's response, the Examiner noted that the applicant's attempt to contact the purchaser is noted; however, an attempt to maintain control over an experimental sale is not the same as maintaining control itself. It should be noted that the first element of the on-sale bar as per Pfaff is that "the subject of a commercial offer for sale is not primarily for experimental purposes. In this case, the subject was clearly for experimental purposes subjectively to the applicant. Further, in that same note, the next sentence by the Examiner states that "the applicant makes no mention of the informing of the purchaser of the so-called experimental use." However, the applicant at the time was not so well-versed in patent law to use such a legal term to inform the purchaser, Mr. Murch, that this was an experimental sale. However, using the general term of an experimental sale as opposed to the patent legalese definition, it is clear as noted above that the applicant was conducting an experiment with regard to this device.

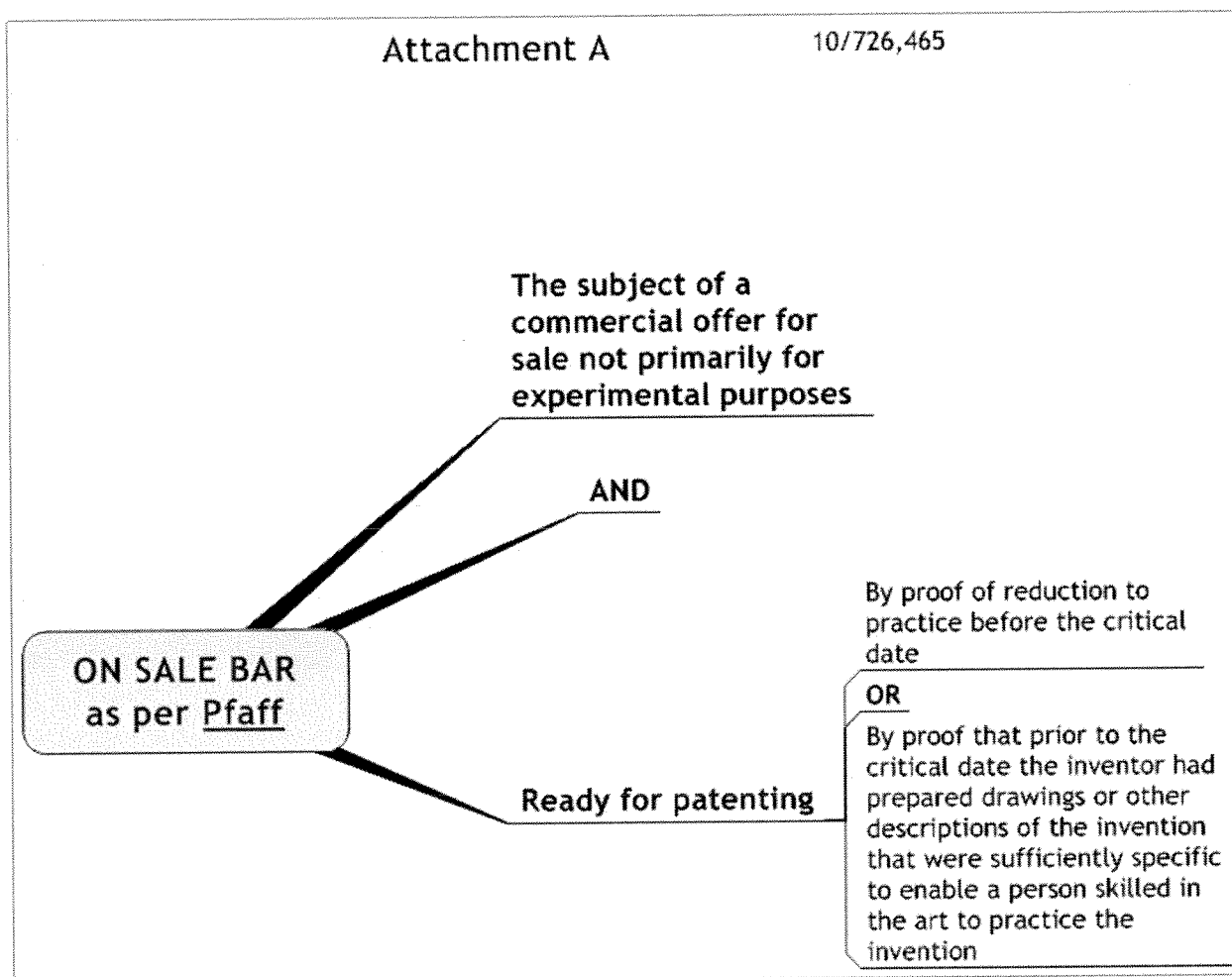
In the final sentence of the second full paragraph under Section 7 the last Office Action, the Examiner noted stated that "it is not enough that the applicant regarded the sale as experimental, the purchaser must be made aware as well, in that diligent follow up in monitoring is required." As noted above, as further recited in the last Office Action as well as what is recited in the case law under such cases such as Pfaff and EZ Dock, there is no indication that "diligent follow-up and monitoring is required." Such actions are a factor in the overall analysis but it appears the Examiner has taken a position that is not firmly based on the case law.

In the third paragraph in Section 7 of the last Office Action, the Examiner stated that the changes and modifications were not made. The first constructed unit did have issues as and was in need of repair. As described above under Subsection 5 of the subheading for the facts related to the first prong of the Pfaff test as recited in EZ Dock, such changes are discussed in greater detail. The Examiner noted that a period of five months is not acceptable. It is assumed that the Examiner is referring to the time between certain communications. However, it should be noted that boating seasons are scattered in Northwestern Washington, and such time periods are not unusual. The Examiner stated in the final sentence of the third paragraph under Section 7 of the last Office Action that other changes were made to address water flowing up around the housing are not supported by the Declaration. Further, the Examiner stated in the next single-line paragraph under Section 7 of the last Office Action that the applicant further argued that the design was changed due to such experimental test results. The answer to this statement is that the design was indeed changed, as described above.

The final paragraph in Section 7 of the Office Action, the Examiner states that at least claims 30 through 38 are directed to the original on sale design and do not contain the changes as argued. However, changes in the design will need not necessarily be reflected in all the claims, but merely are a factor to show that there was indeed experimental use. It is not clear why the Examiner has proposed his own interpretation that the claims 30-38 must include the specific changes. Of course, the claims are broad by nature, and such changes which, while prohibitive in value for determining experimental use, will not necessarily manifest themselves into changes in the claims.

The final sentence of Section 7 in the last Office Action appears to indicate again that the Examiner may not have a grasp on the case law as now recited in Pfaff. It should be noted that the Examiner cited the incorrect law in the first Office Action and has maintained his position after being informed by the proper case law in Pfaff in the previous Office Actions. The Examiner stated in the last sentence that "such is clear evidence of reduction to practise (sic. practice) which constitutes an on-sale bar." Again, it should be reiterated that the proper Supreme Court test under Pfaff has a two-prong test where the second prong is dichotomized disjunctively into two subparts. Shown below is a graphic of the last attachment which perhaps best illustrates the test.

As shown in the lower right-hand portion, reduction to practice is one method of showing the second prong. However, even if there is evidence of reduction to practice, the first two prongs are conjunctive in nature and both must be met. Therefore, the first prong, which states that the offer is primarily not for experimental use, is a primary focus in the arguments in the last response, which are substantially similar to your arguments presented above. The graphic below illustrates the factors of the Pfaff case.



Therefore the above graphic illustrates the case law and reduction to practice is not dispositive in itself as to whether there is an on sale bar.

Conclusion Regarding the Overall Nature of the Facts for the first issue.

Further, regarding the general nature of the sale, it can be appreciated that the sale between Cap Sante (the assignee of the application) and the purchaser had a

general fact pattern of a significant amount of modification, uncertainty in the design, changes to the design, a single sale without any additional sales until much later, selling to and working with an engineer purchaser who is generally more tolerant of a development process and other possible potential customers, and other factors noted above and which can be appreciated through the nature of the various declarations. The whole nature of the 102(b) statutory bar is to prevent effectively extending the life of the patent where the inventor incurs many sales, makes a large profit off the patent and then files a patent to effectively extend the life of his limited monopoly. Taking a step back and looking at the facts in totality, it is clear that the inventor in this case was not seeking to extend the life of the patent, and that the overall theme and spirit of his actions were very experimental.

Response to Second grounds for rejection

Summary of the *Den Ouden* Reference:

The Den Ouden reference in column 2 about line 33 "a centerline of the tunnel to is at least half a tunnel tube diameter above the bottom of the boat, and at least a full tunnel diameter below the water line.

Arguments

The Examiner indicated that the Den Ouden reference teaches the positioning of a thruster that is clear of the water line when the boat is operating at high speed. However, after a thorough review of the Den Ouden reference, it is clear that the specification teaches for a dog 6, which is arranged on the water side of the stern 4. After review of the disclosure and the text, it is clear that this dog is an open-ended type arrangement such that the perimeter element of this dog has an outward or extending type of flange as shown in the isometric view in Fig. 1. It is clear that the propeller 7 is positioned adjacent to this open arena. The Examiner noted in the last Office Action, dated March 27, 2007 in Section 4 under the fourth full paragraph that it would been obvious to one of ordinary skill in the art to time the invention to raise the positioning of the thruster disclosed by the applicant to a position as taught by Den Ouden.

The prior art must be considered as a whole and suggest the desirability and

thus the obviousness of making the combination. Lindermann Maschinefabrik GmbH v. American Hoist and Derrick Co., 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984).

There must be a suggestion or motivation in the prior art to modify a reference to satisfy the claimed invention. In re Gordon, 221 USPQ 1125, 1127 (Fed. Cir. 1984). "*The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification.*" *Id.* (emphasis added).

It is clear from the claims of our current application that the application claims two extension members positioned at opposite sides of the central housing, as recited in part C of a claim 1. It is clear that each extension member having a lower downward-facing surface defines a flow passageway at the downwardly facing surface. The prior art shows an open-type arrangement adjacent to the propeller 7, as shown in Fig. 1 of the Den Ouden application and as shown in the various figures. The Examiner noted in the fifth paragraph under Section 4 of his last response that such a combination would have been desirable at the time of invention so as to reduce drag.

Again, the prior art must be reviewed as a whole when compared against the claim. The prior art fails to teach or suggest having the two extension members positioned at opposite sides of a central housing.

Under Section 4 of the Examiner's response, the Examiner noted that the extent is about 25% or 30% as claimed. It is assumed that the Examiner is referring to the Den Ouden reference, where claim 12, which depends upon claim 11, claims a distance of the outer edges of the two extension members is no greater than about 60% and no less than about 25% of a distance between outer edge locations of the transom where the bottom inside walls meet. In other words, the total width of the transom of the unit is no less than 25% (a quarter of the distance) of the width of the transom, and no greater than 65%. Of course, this is a dependent claim; however, after reviewing Fig. 1 of the Den Ouden reference, it is apparent that the width of the unit is not even 25% of the total width of the transom. Therefore, there is no suggestion or teaching within the Den Ouden reference that the unit is to be greater than 25%. Although Fig. 1 is an isometric view, it is clear that the width of this unit is not greater than one quarter of the total

width. In other words, practically speaking, it appears that more than five of these transoms could fit adjacent to one another positioned along the back portion. At any rate, it is reiterated that claim 12 is merely a dependant claim.

Regarding the Examiner's discussion of claim 16 in the seventh paragraph under Section 4 of his last response, the Examiner noted that the numeric designation of 40% of the minimum time requirement would have been obvious for one skilled in the art. Firstly, it is strongly believe that the independent claim is allowable; however, it is our belief that having the extended shrouds on the lateral portions of the central housing is by no means an obvious endeavor which effectively increases the lateral with of the entire thruster.

The particular orientation of the Den Ouden reference was considered in the inventive process and was rejected as it results in too much air flowing through the propeller portion. As stated in the background section of our application, "A more common currently used stern thruster is a tunnel-propeller thruster where there is a laterally aligned housing in the form of a cylindrical duct or tunnel positioned at the transom below the water, with one or two propellers positioned in the duct or tunnel.

The tunnel thruster needs to be positioned far enough below the water surface to prevent air being sucked into the tunnel passageway along with the water traveling through the propellers, since this can cause a substantial loss of thrust. Thus, it is generally recommended that the thruster be positioned in the water at least one tunnel diameter below the water line.

However, for smaller boats which have a rather shallow draft, a thruster permanently installed in the transom of the boat has in general been impractical. The dimensions of the thrust apparatus must be sufficiently large to be able to eject water at a volumetric rate sufficient to provide adequate thrust for maneuvering, and yet (as indicated above) be a sufficient distance below the surface of the water so that it will not lose thrust by sucking in ambient air. However, if the lower part of this thrust apparatus is too far down, portions of the thruster will be positioned in the water stream that passes under the hull of the boat, traveling at medium or full speed, thus causing substantial drag."

Later testing of the original experimental installation of the invention for this out as adaptations were made to the boat, and later embodiments of the invention were positioned with these test results in mind.

Response to Third grounds for rejection

Summary of the Stallman Reference:

This invention relates generally to water jet pumps and more particularly to a water jet motor for boats employing water jet pumps.

In inboard motor applications, the water intakes are flush mounted in the hull bottom. At high boat speeds, the boat rises and the intake does not supply sufficient water to the pump.

This reference provides an improved water jet pump that can be attached to existing outboard motors.

Other objects of the invention are to provide a water jet pump for boats in which: (a) The water intake section extends a minimum distance below the bottom of the boat and is fitted with scoop vanes to assure sufficient delivery of water to the pump. (b) The trailing edge of the intake section touches bottom in shallow water before the scoop vanes to prevent scooping in rocks and dirt. (c) The pump impeller is of the mixed flow type and provides the proper combination of pressure and volume for best thrust efficiency for a given input horsepower. (d) The edges of the impeller blades form a tapered section in the pump casing such that simple removal of shims will allow adjustment of impeller clearance. (e) A composition type sleeve water-lubricated bearing is used. (f) The coolant water for the engine is taken from the pump through a narrow spinning section of the impeller which acts as a centrifugal separator to remove foreign material. (g) The reviewing gate which deflects the jet stream forward, to move the boat backward, is mounted such that it moves in the direction the jet is steered or deflected and thus allows steering in reverse.

Argument

The Stallman reference discloses a jet propulsion motor to be adapted to existing outboard motors. This reference continues to extend below the water line while the

boat is in forward motion, otherwise it will longer operate to intake water to provide propulsion.

As recited in paragraph 5 of the last application, the Examiner rejected the claims 49--64 under Section 103 as unpatentable over the Offer for Sale, which is discussed in issue 1 above in conjunction with the Stallman reference, US 3,082,732.

It is not abundantly clear why the Stallman reference was cited, because claim 39 under the last portion of Section C clearly states that "when the boat is operating during the higher velocity operating mode, the thruster is substantially clear of the water that is at the transom wake surface." It is clear that Stallman is a water jet motor for boats. As shown in Fig. 1, the take section 7 is comprised of a trailing edge 28 and intake grill veins 25 as shown in Fig. 4. Referring now to Fig. 1, it is clear that this portion 7 is in line with the lower wake surface and it is clear from the overall teaching of this document that this unit is for propelling the boat. Therefore, there is no way that this perimeter edge surface is to raise above the water surface, since it is simply designed to have water be thrust up therein and ejected through the jet pump 44 portion of the boat. Therefore, not only is this reference a negative teaching, teaching the opposite issue of the thrust of the claim 49, this reference would be inoperable when utilized in a manner such as claimed in claim 39.

Further, it is clear from claims 39 and 49, that in part C of claim 49 the independent claim recites that the "lower perimeter edge portion which is located at an elevation lower than the upper portions of the end portions of the center housing, each extension member having a downwardly facing surface..." It is clear from the teachings in Stallman that the leading-edge surface as shown between numeral 22 and 32 of Fig. 4 has a downward facing surface. However, the trailing surface between 3 and 8 of Fig. 4 is an upward facing surface. It is clear that this teaching of Stallman is for forward propulsion, and such an arrangement of these surfaces with an rearward and a downward opening is quite distinct from two downwardly facing surfaces on the extension members, as claimed in the present application.

VIII. Conclusion:

Appellants respectfully submit that the rejection of claims 1-64 in view of the applicant's disclosed experimental use, and prior art references in view of said experimental use is improper. The rejection of claims 1-64 based on the allegation that the invention as claimed was offered for commercial sale more than one year prior to the application for patent has no basis in fact, and is legally insupportable. Likewise deficient in factual basis and legal support is the rejection of claims 1-29 and 49-64 for lack of novelty. For these reasons it is respectfully submitted that these rejections are improper and it is requested that they be reversed.

It is paramount that the correct law is applied with regard to the analysis of the on-sale bar. As recited above and recited in detail in the previous responses, the recent authority on this subject is the Supreme Court case Pfaff. This case presents the two-prong test, and the second prong consists of two separate disjunctive factors. One of the factors is whether the claimed invention was reduced to practice. The EZ Dock case provides guidance with regard to the factors of the first prong, which relates to whether the sale was primarily for experimental purposes. It is believed there are sufficient facts and evidence before the board that a proper finding of experimental use can be determined.

With regard to the cited prior art references, these references are used as the basis of a Section 103 rejection in combination with the item the Examiner states was not an experimental use. However, resolving issue number one, noted above, renders these two issues regarding the prior art references moot.

Signed at Bellingham, County of Whatcom, State of Washington this December 5, 2007.

Respectfully submitted,

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Claims appendix:

1. (original)(rejected) A thruster adapted to be mounted at an operating location at a transom of a boat, having bottom and side wall sections having rear end portions adjacent to the transom and a water line at the transom, said thruster comprising:

- a) a central thrusting section which has a lengthwise axis and comprises a central housing that defines a through passageway and two oppositely positioned outer end portions, each of which defines an end opening;
- b) a propeller section positioned in said through passageway;
- c) two extension members that are positioned at opposite sides of the central housing, with each extension member having an inner end portion adjacent to a related one of said outer end portions of the central housing and extending outwardly therefrom, each extension member having a lower perimeter edge portion which is located so that with the thruster in an operating position, and with the boat being in a lateral thrust operating mode, the perimeter edge portions of the two extension members are below the water line of the boat, each extension member having a lower downwardly facing surface that defines a flow passageway at the downwardly facing surface, said flow passageway having an inner end flow passageway portion adjacent one of the end openings of the center housing;
- d) said thruster being configured and arranged, so that with the thruster located at the transom in its operating position:

- i) when the boat is traveling at a sufficient speed through the water to cause the water to separate from the transom and form a transom wake surface, the thruster is substantially clear of the water that is at the transom wake surface, and
- ii) when the thruster is operating and the boat is in a lateral thrust operating mode, the two extension members have their lower perimeter edge portions located so that as water flows by the lower perimeter edge portions and into one of the end openings of the center housing, ambient air is substantially prevented from being entrained in the water entering into the center housing.

2. (original)(rejected) The thruster as recited in claim 1, wherein each end opening of the housing is defined by a surrounding rim, and at least a substantial portion of the perimeter edge portion of the extension member which is adjacent to that surrounding rim is below an upper portion of said surrounding rim.

3. (original)(rejected) The thruster as recited in claim 2, wherein said substantial portion of the perimeter edge portion of each extension member is below the upper portion of the surrounding rim by a distance that is at least about one-half of a depth dimension of the end opening defined by the surrounding rim.

4. (original)(rejected) The thruster as recited in claim 2, wherein said substantial portion of the perimeter edge portion of each extension member is below the upper portion of the surrounding rim by a distance between about one-quarter to

three-quarters of a depth dimension of the end opening defined by the surrounding rim.

5. (original)(rejected) The thruster as recited in claim 1, wherein each end opening of the housing is defined by a surrounding rim defining the end opening, each of said end openings having a depth dimension, each extension member having an inner end portion adjacent to its related end opening, an outer end portion, and a length dimension from said inner end portion to the outer end portion, with a length dimension from said inner end portion to said outer end portion of the extension member being at least as great as the depth dimension of its related end opening.

6. (original)(rejected) The thruster as recited in claim 5, wherein said length dimension is at least as great as one and one-half times said depth dimension.

7. (original)(rejected) The thruster as recited in claim 1, wherein each end opening of the housing is defined by a surrounding rim having a depth dimension, each of said extension members having a maximum width dimension extending from one side of said extension member to the other side thereof, said maximum width dimension being at least about equal to or greater than the depth dimension of the end opening of the housing adjacent to that extension member.

8. (original)(rejected) The thruster as recited in claim 1, wherein each of said extension members has its downwardly facing surface shaped so the flow passageway has a greater depth dimension at said inner end flow passageway portion and a lesser depth dimension at an outer end portion of said extension member.

9. (original)(rejected) The thruster as recited in claim 8, wherein said flow passageway has an inward and upward slope to said inner end flow passageway portion.
10. (original)(rejected) The thruster as recited in claim 9, wherein the downwardly facing surface of the extension member forms a hydro-dynamically contoured surface that is generally curved upwardly and inwardly to the opening of the housing.
11. (original)(rejected) A thruster boat combination comprising:
- a) a boat comprising a hull having a water line, side walls, a bottom wall, and a transom, with said bottom wall comprising two wall sections which extend from side locations in a downward and laterally inward slant to a central juncture location of the two bottom wall sections, and with said transom meeting said bottom and side walls at bottom and side edge locations thereof, said boat having a thrust operating mode where the boat is stationary or is moving at a sufficiently low speed so that water remains adjacent to the transom;
 - b) a thruster which is mounted at the transom of the boat so as to provide lateral thrust, said thruster comprising:
 - i) a central thrusting section which has a lengthwise axis and comprises a central housing that defines a through passageway that is generally aligned with said lengthwise axis and has two oppositely positioned outer end portions, each of which defines an end opening;
 - ii) a propeller section positioned in said through passageway;
 - c) two extension members that are positioned at opposite sides of the central housing, with each extension member having an inner end portion adjacent to a

related one of said outer end portions of the central housing and extending outwardly therefrom, each extension member having a lower perimeter edge portion which is located so that with the thruster in an operating position and with the boat being in a lateral thrust operating mode, the perimeter edge portions of the two extension members are below the water line of the boat, each extension member having a lower downwardly facing surface that defines a flow passageway at the downwardly facing surface, said flow passageway having an inner end flow passageway portion adjacent one of the end openings of the central housing;

d) said thruster being configured and arranged, so that with the thruster located at the transom in its operating position:

i) when the boat is traveling at a sufficient speed through the water to cause the water to separate from the transom and form a transom wake surface, the thruster is substantially clear of the water that is at the transom wake surface, and

ii) when the thruster is operating and the boat is in a lateral thrust operating mode, the two extension members have their lower perimeter edge portions located so that as water flows by the lower perimeter edge portions and into one of the end openings of the center housing, ambient air is substantially prevented from being entrained in the water entering into the center housing.

12. (original)(rejected) The combination as recited in claim 11, wherein a distance between outer end edges of the two extension members is no greater than about

sixty percent and no less than about twenty five percent of a distance between outer edge locations of the transom where the bottom and side walls meet.

13. (original)(rejected) The combination as recited in claim 11, wherein a distance between outer end edges of the two extension members is no greater than about fifty percent and no less than about thirty percent of a distance between outer edge locations of the transom where the bottom and side walls meet.
14. (original)(rejected) The combination as recited in claim 11, wherein a distance between outer end edges of the two extensions is no greater than about forty percent of a distance between outer edge locations of the transom where the bottom and side walls meet.
15. (original)(rejected) The combination as recited in claim 11, wherein a distance between outer end edges of the two extension members is no less than about thirty percent of a distance between outer edge locations of the transom where the bottom and side walls meet.
16. (original)(rejected) The combination as recited in claim 15, wherein a distance between outer end edges of the two extensions is no less than about forty percent of a distance between edge locations of the transom where the bottom and side walls meet.
17. (original)(rejected) The combination as recited in claim 12, wherein each end opening of the housing is defined by a surrounding rim having a depth dimension, each of said extension members having a maximum width dimension extending from one side of said extension member to the other side thereof, said

maximum width dimension being at least about equal to or greater than the depth dimension of the end opening of the housing adjacent to that extension member.

18. (original)(rejected) The combination as recited in claim 17, wherein each of said extension members has its downwardly facing surface shaped so that the flow passageway has a greater depth dimension at said inner end flow passageway portion and a lesser depth dimension at an outer end portion of said extension member.
19. (original)(rejected) The combination as recited in claim 12, wherein a substantial portion of the perimeter edge portion of each extension member is below an upper portion of a surrounding rim defining the end opening of the central housing by a distance that is at least about one-half of a depth dimension of the end opening defined by the surrounding rim.
20. (original)(rejected) The combination as recited in claim 12, wherein each end opening of the housing is defined by a surrounding rim defining the end opening, each of said end openings have a depth dimension, each extension member having an inner end portion adjacent to its related end opening, an outer end portion, and a length dimension from said inner end portion to the outer end portion, with a length dimension from said inner end portion to said outer end portion of the extension member being at least as great as the depth dimension of its related end opening.
21. (original)(rejected) The combination as recited in claim 20 wherein said length dimension from said inner end portion to said outer end portion of the extension member is at least as great as one and one-half times said depth dimension.

22. (original)(rejected) The combination as recited in claim 15, wherein a length dimension of the central housing section of the thruster is between about nine percent to thirty percent of a length dimension between outer edge locations of the transom where the side walls meet the bottom wall.
23. (original)(rejected) The combination as recited in claim 15, wherein a length dimension of the central housing section of the thruster is no greater than about thirteen percent to about twenty percent of a length dimension between outer edge locations of the transom where the side walls meet the bottom wall.
24. (original)(rejected) The combination as recited in claim 15, wherein a length dimension of the central housing section of the thruster is about nine percent to three-twentieths of a length dimension between outer edge locations of the transom where the side walls meet the bottom wall.
25. (original)(rejected) The combination as recited in claim 11, wherein an upper portion of said center housing of the thruster is at a depth below the water line of the boat which is less than a distance equal to a vertical dimension of the end opening of the passageway of the central housing.
26. (original)(rejected) The combination as recited in claim 25, wherein the upper portion of the center housing of the thruster is at or adjacent to the water line of the boat.
27. (original)(rejected) The combination as recited in claim 11, wherein a vertical dimension of one of the end openings of the passageway of the central housing is no less than about two-thirds of a vertical distance between the water line and a lower portion of the transom of the boat.

28. (original)(rejected) The combination as recited in claim 11, wherein a vertical dimension of one of the openings of the passageway of the central housing is no less than about three-quarter of a vertical distance between the water line and a lower portion of the transom of the boat.

29. (original)(rejected) The combination as recited in claim 11, wherein a vertical dimension of one of the openings of the passageway of the central housing is no less than about eighty-one percent of a vertical distance between the water line and a lower portion of the transom of the boat.

30. (original)(rejected) A thruster adapted to be mounted to a boat at an operating location, said thruster comprising:

- a) a central thrusting section which has a lengthwise axis and comprises a central housing that defines a through passageway and two oppositely positioned outer end portions, each of which defines an end opening;
- b) a propeller section positioned in said through passageway;
- c) two extension members that are positioned at opposite sides of the central housing, with each extension member having an inner end portion adjacent to a related one of said outer end portions of the central housing and extending outwardly therefrom, each extension member having a lower perimeter edge portion which is located at an elevation lower than the end openings of the center housing, each extension member having a downwardly facing surface that defines a flow passageway at the downwardly facing surface, said flow passageway having an inner end

flow passageway portion adjacent one of the end openings of the center housing;

- d) said thruster being configured and arranged, so that with the thruster located in an operating position with the thruster operating to provide a lateral thrust, the two extension members have their lower perimeter edge portions located so that as water flows by the lower perimeter edge portions and into one of the end openings of the center housing, ambient air is substantially prevented from being entrained in the water entering into the center housing.

31. (original)(rejected) The thruster as recited in claim 30, wherein each end opening of the housing is defined by a surrounding rim, and at least a substantial portion of the perimeter edge portion of the extension member which is adjacent to that surrounding rim is below an uppermost portion of said surrounding rim by a distance between about one quarter to three quarters of a depth dimension of the end opening defined by the surrounding rim.

32. (original)(rejected) The thruster as recited in claim 30, wherein each end opening of the housing is defined by a surrounding rim, and at least a substantial portion of the perimeter edge portion of the extension member which is adjacent to that surrounding rim is below an uppermost portion of said surrounding rim by a distance that is at least about one-half of a depth dimension of the end opening defined by the surrounding rim.

33. (original)(rejected) The thruster as recited in claim 30, wherein each end opening of the housing is defined by a surrounding rim defining the end opening, each of

said end openings having a depth dimension, each extension member having an inner end portion adjacent to its related end opening, an outer end portion, and a length dimension from said inner end portion to the outer end portion, with a length dimension from said inner end portion to said outer end portion of the extension member being at least as great as the depth dimension of its related end opening.

34. (original)(rejected) The thruster as recited in claim 33, wherein said length dimension is at least as great as one and one-half times said depth dimension.
35. (original)(rejected) The thruster as recited in claim 30, wherein each end opening of the housing is defined by a surrounding rim having a depth dimension, each of said extension members having a maximum width dimension extending from one side of said extension member to the other side thereof, said maximum width dimension being at least about equal to or greater than the depth dimension of the end opening of the housing adjacent to that extension member.
36. (original)(rejected) The thruster as recited in claim 30, wherein each of said extension members has its downwardly facing surface shaped to have a greater depth dimension at said inner end flow passageway portion and a lesser depth dimension at an outer end portion of said extension member.
37. (original)(rejected) The thruster as recited in claim 36, wherein said flow passageway having an inward and upward slope to said inner end flow passageway portion.
38. (original)(rejected) The thruster as recited in claim 37, wherein the downwardly facing surface of the extension member forms a hydro-dynamically contoured

surface having a concave surface that is generally curved upwardly and inwardly to the opening of the housing.

39. (original)(rejected) A method of providing lateral thrust in a boat comprising a hull having a water line, side walls, a bottom wall, and a transom, with said bottom wall comprising two wall sections which extend from side locations in a downward and laterally inward slant to a central juncture location of the two bottom wall sections, and with said transom meeting said bottom and side walls at bottom and side rear edge locations thereof, said boat having a lateral thrust operating mode where the boat is stationary or is moving at a sufficiently low speed so that water remains adjacent to the transom, and a higher speed operating where water separates from the transom to form a transom wake surface,
- said method comprising:
- a) providing a thruster by:
 - i) providing a central thrusting section which has a lengthwise axis and comprises a central housing that defines a through passageway that is generally aligned with said lengthwise axis and has two oppositely positioned outer end portions, each of which defines an end opening and a propeller section positioned in said through passageway;
 - ii) positioning two extension members at opposite sides of the central housing to form said thruster in a manner that each extension member has an inner end portion adjacent to a related one of said outer end portions of the central housing with the extension members extending

outwardly therefrom, and each extension member having a lower perimeter edge portion,

- b) positioning the thruster with the two extension members in an operating position at the transom of the boat, so that the perimeter edge portions of the two extension members are below the water line of the boat, with each extension member having a downwardly facing surface that defines a flow passageway at the downwardly facing surface, and with said flow passageway having an inner end flow passageway portion adjacent one of the end openings of the central housing,
 - c) operating the boat with the thruster positioned so that during a time period when the boat is in said lateral thrust operating mode to cause a lateral thrust, the two extension members are positioned so that their lower perimeter edge portions are located so that as water flows by one of the lower perimeter edge portions and into one of the end openings of the center housing, ambient air is substantially prevented from being entrained in the water entering into the central housing, and during a time period when the boat is operating during the higher velocity operating mode the thruster is substantially clear of the water that is at the transom wake surface.
40. (original)(rejected) The method as recited in claim 39, further comprising providing each end opening of the housing defined by a surrounding rim, with at least a substantial portion of the perimeter edge portion of the extension member which is adjacent to that surrounding rim being below an uppermost portion of said surrounding rim.

41. (original)(rejected) The method as recited in claim 40, wherein said substantial portion of the perimeter edge portion of each extension member is positioned below the upper portion of the surrounding rim by a distance that is at least about one-half of a depth dimension of the end opening defined by the surrounding rim.
42. (original)(rejected) The method as recited in claim 41, wherein said substantial portion of the perimeter edge portion of each extension member is positioned below the upper portion of the surrounding rim by a distance between about one-quarter to three-quarters of a depth dimension of the end opening defined by the surrounding rim.
43. (original)(rejected) The method as recited in claim 39, wherein each end opening of the housing defined by a surrounding rim has a depth dimension, and each extension member has an inner end portion adjacent to its related end opening, an outer end portion, and a length dimension from said inner end portion to the outer end portion, said method further comprising providing said extension members and said central thrusting section so that a length dimension from said inner end portion to said outer end portion of the extension member is at least as great as the depth dimension of its related end opening.
44. (original)(rejected) The method as recited in claim 43, wherein said extension members and said central thrusting section of said thruster are provided so that said length dimension is at least as great as one and one-half times said depth dimension.
45. (original)(rejected) The method as recited in claim 39, wherein each end opening of the housing is defined by a surrounding rim having a depth dimension, each of

said extension members having a maximum width dimension extending from one side of said extension member to the other side thereof, said maximum width dimension being at least about equal to or greater than the depth dimension of the end opening of the housing adjacent to that extension member.

46. (original)(rejected) The method as recited in claim 39, wherein each of said extension members has its downwardly facing surface shaped so the flow passageway has a greater depth dimension at said inner end flow passageway portion and a lesser depth dimension at an outer end portion of said extension member.
47. (original)(rejected) The method as recited in claim 46, wherein said flow passageway has an inward and upward slope to said inner end flow passageway portion.
48. (original)(rejected) The method as recited in claim 39, wherein the downwardly facing surface of the extension member forms a hydro-dynamically contoured surface that is generally curved upwardly and inwardly to the opening of the housing.
49. (previously presented) (rejected) A thruster adapted to be mounted to a boat at an operating location, said thruster comprising:
- a) a central thrusting section which has a lengthwise axis and comprises a central housing that defines a through passageway and two oppositely positioned outer end portions, each of which defines an end opening;
 - b) a propeller section positioned in said through passageway;

- c) two extension members that are positioned at opposite sides of the central housing, with each extension member having an inner end portion adjacent to a related one of said outer end portions of the central housing and extending outwardly therefrom, each extension member having a lower perimeter edge portion which is located at an elevation lower than the upper portions of the end openings of the center housing, each extension member having a downwardly facing surface that defines a flow passageway at the downwardly facing surface, said flow passageway having an inner end flow passageway portion adjacent one of the end openings of the center housing;
- d) each extension member having a perimeter flange connected to, and positioned around at least a substantial portion of the lower perimeter edge portion of the extension member, with the perimeter flange positioned with a substantial horizontal alignment component from the lower perimeter edge portion to extend into the surrounding water;
- e) said thruster being configured and arranged, so that with the thruster located in an operating position with the thruster operating to provide a lateral thrust, the two extension members have their lower perimeter edge portions located so that as water flows by the lower perimeter edge portions and into one of the end openings of the center housing, ambient air is substantially prevented from being entrained in the water entering into the center housing.

50. (previously presented) (rejected) The thruster as recited in claim 49, wherein each end opening of the housing is defined by a surrounding rim, and at least a substantial portion of the perimeter edge portion of the extension member which is adjacent to that surrounding rim is below an uppermost portion of said surrounding rim by a distance between about one quarter to three quarters of a depth dimension of the end opening defined by the surrounding rim.
51. (previously presented) (rejected) The thruster as recited in claim 49, wherein each end opening of the housing is defined by a surrounding rim, and at least a substantial portion of the perimeter edge portion of the extension member which is adjacent to that surrounding rim is below an uppermost portion of said surrounding rim by a distance that is at least about one-half of a depth dimension of the end opening defined by the surrounding rim.
52. (previously presented) (rejected) The thruster as recited in claim 49, wherein each end opening of the housing is defined by a surrounding rim defining the end opening, each of said end openings having a depth dimension, each extension member having an inner end portion adjacent to its related end opening, an outer end portion, and a length dimension from said inner end portion to the outer end portion, with a length dimension from said inner end portion to said outer end portion of the extension member being at least as great as the depth dimension of its related end opening.
53. (previously presented) (rejected) The thruster as recited in claim 52, wherein said length dimension is at least as great as one and one-half times said depth dimension.

54. (previously presented) (rejected) The thruster as recited in claim 49, wherein each end opening of the housing is defined by a surrounding rim having a depth dimension, each of said extension members having a maximum width dimension extending from one side of said extension member to the other side thereof, said maximum width dimension being at least about equal to or greater than the depth dimension of the end opening of the housing adjacent to that extension member.
55. (previously presented) (rejected) The thruster as recited in claim 49, wherein each of said extension members has its downwardly facing surface shaped to have a greater depth dimension at said inner end flow passageway portion and a lesser depth dimension at an outer end portion of said extension member.
56. (previously presented) (rejected) The thruster as recited in claim 49, wherein each end opening of the housing is defined by a surrounding rim, and at least a substantial portion of the perimeter edge portion of the extension member which is adjacent to that surrounding rim is below an upper portion of said surrounding rim.
57. (previously presented) (rejected) The thruster as recited in claim 56, wherein said substantial portion of the perimeter edge portion of each extension member is below the upper portion of the surrounding rim by a distance that is at least about one-half of a depth dimension of the end opening defined by the surrounding rim.
58. (previously presented) (rejected) The thruster as recited in claim 56, wherein said substantial portion of the perimeter edge portion of each extension member is below the upper portion of the surrounding rim by a distance between about one-

quarter to three-quarters of a depth dimension of the end opening defined by the surrounding rim.

59. (previously presented) (rejected) The thruster as recited in claim 49, wherein each end opening of the housing is defined by a surrounding rim defining the end opening, each of said end openings having a depth dimension, each extension member having an inner end portion adjacent to its related end opening, an outer end portion, and a length dimension from said inner end portion to the outer end portion, with a length dimension from said inner end portion to said outer end portion of the extension member being at least as great as the depth dimension of its related end opening.
60. (previously presented) (rejected) The thruster as recited in claim 59, wherein said length dimension is at least as great as one and one-half times said depth dimension.
61. (previously presented) (rejected) The thruster as recited in claim 49, wherein each end opening of the housing is defined by a surrounding rim having a depth dimension, each of said extension members having a maximum width dimension extending from one side of said extension member to the other side thereof, said maximum width dimension being at least about equal to or greater than the depth dimension of the end opening of the housing adjacent to that extension member.
62. (previously presented) (rejected) The thruster as recited in claim 49, wherein each of said extension members has its downwardly facing surface shaped so the flow passageway has a greater depth dimension at said inner end flow passageway

portion and a lesser depth dimension at an outer end portion of said extension member.

63. (previously presented) (rejected) The thruster as recited in claim 62, wherein said flow passageway has an inward and upward slope to said inner end flow passageway portion.

64. (previously presented) (rejected) The thruster as recited in claim 63, wherein the downwardly facing surface of the extension member forms a hydrodynamically contoured surface that is generally curved upwardly and inwardly to the opening of the housing.

Evidence Appendix

See attached Declarations

Related proceedings appendix

None